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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
PENDLETON DIVISION

WESTERN WATERSHEDS PROJECT,
CENTER FOR BIOLOGICAL DIVERSITY,
and **WILDEARTH GUARDIANS,**

Plaintiffs,

v.

DAVID BERNHARDT, Secretary of the Interior,
JEFFREY A. ROSE, District Manager,
Burns District Bureau of Land Management, and
BUREAU OF LAND MANAGEMENT,

Defendants.

Case No. 2:19-cv-750-SI

THIRD DECLARATION OF
DR. CLAIT E. BRAUN

I, Clait E. Braun, declare:

1. I am the same Clait E. Braun who previously submitted two declarations in this case. I submit this Third Declaration in further support of Plaintiff's Motion for Temporary Restraining Order/Preliminary Injunction, ECF No. 7. This Declaration expands upon and incorporates by reference the facts to which I attested in my previous Declarations, ECF Nos. 8 and 29. The statements below are based on my scientific training, personal knowledge, and experience, including my 40+ years of professional experience researching, studying, and managing Greater sage-grouse.

2. In this Declaration, I further describe the likely effects of re-establishing livestock grazing on the Mud Creek and Hardie Summer allotments in southeastern Oregon, where it has been absent for the past five years.

3. I conducted a site visit to the Mud Creek Allotment and Hardie Summer Allotment on 20 June 2019. This included walking the Mud Creek Lek area and other areas in the Mud Creek Allotment, as well as in the Hardie Summer Allotment, to review plant associations, especially those important to Greater sage-grouse. I also visited the Frazier Field Allotment on 19 June 2019 and the Hammond Allotment on 21 June 2019 to observe habitat conditions. I have attached a map as Exhibit 1 showing the points we visited on 20 and 21 June 2019.

4. I reviewed maps of the area to obtain more perspective as to where Greater sage-grouse could breed, nest, and rear young.

5. We were limited to some extent in the areas we could visit on the allotments by access issues, including road conditions, and time constraints. Therefore, I have relied on mapping and knowledge about fire history to inform conclusions about portions of the allotments

I have not seen. I also have reviewed the Declarations of Jamie McCormack and Matthew Obradovich and offer some facts in this declaration in response to representations made by Ms. McCormack and Mr. Obradovich. I have also attached selected scientific articles or excerpts that I have cited in my declarations as exhibits here.

SAGE-GROUSE BIOLOGY AND HABITAT NEEDS IN SUMMER/BROOD-REARING SEASON

6. The nesting period for sage-grouse varies from area to area across the range of the species. Selection of nest sites typically starts in April but may be as early as late March depending upon elevation. Once breeding occurs (usually associated but not always with visits to leks), hens select sites most likely based on cover to hide them during the nest incubation stage. The hen can lay up to 9-10 eggs (most seem to lay 7-9 eggs over a 16-20 day interval) with incubation initiated when the last egg is laid. Eggs start hatching after about 27 days of incubation. The latest date of calculated (backdating) hatching is during the first week in July in some years. Hatching in some years may extend from early May to early July. A hen that renests after loss of its first clutch (a relatively small number of hens will renest) most frequently changes nest locations by up to several miles.

7. The sage-grouse brood rearing period is from May-June into early September. Most nesting attempts end in June (some into the first week of July). Broods are still reliant on the hen into early September when broods disperse.

8. Hens with broods prefer to stay in sagebrush uplands if forbs are present. As the upland vegetation becomes desiccated, hens start moving to areas near water but also with green forbs and cover. If hatching occurs under dry conditions, hens rapidly lead their brood towards green areas with water. If movement is too fast, most chicks will be lost in transit. Thus the

original site selected for nesting is crucial as abundance of forbs and insects in brood-rearing habitat is critical for survival of chicks.

9. Sage-grouse also depend upon multiple habitat components in summer/brood-rearing habitats. These components relate to succulent green forage (forbs) near water and cover, primarily live sagebrush. Livestock also prefer green forage and water. Thus, there can be competition with cattle for resources in summer.

10. Sage-grouse in August are still associated with wet sites without trees. In fall (September-October) they wander widely and move towards and into areas with live sagebrush and moisture. They frequent north and east-facing slopes which retain live sagebrush as they seek cover and late blooming plants and or plants that retain moisture. Thus, livestock (cattle) compete for the same resources (green forage and water plus cover for sage-grouse).

11. Of the parts of the allotments we were able to visit, the only allotment on Steens Mountain visited that displays presently reasonable quality sage-grouse habitats was the Hardie Summer Allotment.

SITE VISITS TO THE ALLOTMENTS

Frazier Field Allotment

12. On June 19, I visited lands adjacent to the Mud Creek Allotment, on the Frazier Field Allotment.

13. Habitat quality on the allotment was poor for breeding and nesting Greater sage-grouse as there was very little live sagebrush, and the ground cover was inadequate to insure successful nesting and rearing of sage-grouse chicks. The potential of this area for sustaining populations of sage-grouse over the breeding and brood rearing period was extremely poor.

14. Nevertheless, while inspecting the allotment conditions, I flushed two sage-grouse hens. This observation and date (19 June 2019) suggests the hens were unsuccessful in nesting and hatching their clutches in 2019, based on the date of the observation, as unsuccessful hens tend to form small groups as they move to summer use areas. Successful hens tend to be alone when they flush as their apparent intent is to distract from where their chicks might be hiding.

15. I observed former habitat in the Mud Creek Allotment across the riparian corridor. There was very little sagebrush cover and cheatgrass was prevalent. This was also typical of the Hammond Allotment (which had abundant crested wheatgrass but lower densities of cheatgrass with a very small forb component and poor cover for sage-grouse).

Mud Creek Allotment

16. On June 20, with BLM, I visited the Mud Creek lek site on the Mud Creek Allotment.

17. This allotment has been irreparably damaged from a combination of the Grandad fire and poor BLM management. I understand the allotment was rested for at least one season (2007) following the 2006 fires, but it appears to have been grazed from 2008 or 2009 to at least 2013. From 2014 until present, I understand it has not been grazed.

18. Unfortunately, native vegetation has not responded to the period of rest as the allotment has very little live sagebrush or native forbs. Soils appear to be shallow and very rocky with little establishment of native plants (shrubs, grasses and forbs). Fire return expectation would appear to be long as there is little vegetation to carry a fire. Livestock (cattle) grazing is uneconomical on this allotment and would be very negative.

19. My professional expectation for this allotment, if livestock (cattle) grazing is allowed, is for it to remain in an exotic disclimax for many years without return to a native

sagebrush forb/grass habitat type. Why? It will be exceedingly difficult for sagebrush and native forbs/grasses to become established on this allotment because of past livestock (cattle) grazing and recent fire history. I consider this allotment to be irreparably and likely permanently damaged by fire and past grazing practices. No grazing would be the most reasonable prescription in an attempt to restore ecosystem health. Any level of grazing is likely to damage whatever residual value this allotment has as sage-grouse habitat, given the degraded state of the allotment.

20. The habitat condition of the Mud Creek Allotment for sage-grouse is very poor. Cheatgrass cover is extensive and sagebrush reestablishment is lacking a seed source, making sagebrush shrub cover regrowth for nesting exceedingly difficult if not impossible. It will likely take at least 40-60 years or more for this allotment to recover ecologically.

21. My observations indicate sage-grouse use of the Mud Creek Allotment is likely very transitory. The lek on the allotment is presently mostly inactive; sage-grouse probably use the allotment only to pass through as they travel to higher elevations. Those that may mate on the lek likely nest farther away as sage-grouse can travel long distances (the extreme distance for a radio-marked hen was 60 miles; this was very unusual!) to nesting sites but most nest within 2-4 miles of the lek they attended. Other than the 2 hens that I flushed on the adjacent Frazier Field Allotment, I saw no evidence of sage-grouse presence on the Mud Creek Allotment in the areas we were able to visit. However, mapping from Oregon State University suggests it is likely that some stands of sagebrush remain in the eastern portion of the Mud Creek Allotment, which we were not able to access on this trip. Sage-grouse are likely to be present during summer in some places on the allotment, indicating that at least some use of the allotment by some sage-grouse is likely during summer even despite the degraded conditions.

22. If grazing is allowed to recommence on the Mud Creek Allotment, I believe that all use of the area by breeding or nesting sage-grouse will be lost because of the continued effects of livestock grazing to sage-grouse habitat. Areas with moisture and green vegetation will be overgrazed by the attraction of cattle to green forage and moisture. This will affect sage-grouse by affecting their nest success, brood survival, as well as survival of adult males and females due to the lack of vegetation (sagebrush) cover. Grazing will also set back the ecological recovery of the allotment and make it extremely unlikely that it will provide valuable habitat for sage-grouse any time in the foreseeable future.

23. Therefore, my management recommendation for this allotment is for complete rest from livestock (cattle) grazing until a sagebrush overstory is re-established complete with a native forb and grass understory over at least 50% of the area available to sage-grouse. This will take up to 40-60 years given the present status of the vegetation. Once recovered, it would have better potential to serve as habitat for sage-grouse and as a seed source for sagebrush and native forbs.

Hammond Allotment

24. On June 21, I visited the southwestern corner of the Hammond Allotment, near Bridge Creek, which occurs within a sage-grouse priority area for conservation (PAC). I crossed the Malheur NWR fence to walk through the mostly crested wheatgrass stand past a few small rocky outcrops to the top of a ridge and then along the ridge line where the original drill rows for the crested wheatgrass had been seeded could still be observed. It appears that most of this area burned in the 2006 Grandad fire.

25. That portion of the allotment is part of a large crested wheatgrass seeding, which provides little habitat value for sage-grouse. I saw no evidence of current livestock (cattle)

grazing and the condition of the crested wheatgrass on the seeding was variable from thin to more robust stands. There was very little seed source for sagebrush and sagebrush reestablishment on the portion of the allotment that I visited was extremely poor. There were very few forbs apparent and many of those few that were present were desiccated. The stand of crested wheatgrass was very poor escape cover for sage-grouse of any age class (adults or chicks). Thus, it had little value for breeding, nesting, broods, and adult sage-grouse.

26. Neither burning nor grazing (cattle) are prescriptions to restore the native flora and sagebrush in this man-created disclimax vegetation type. Passive and active restoration of native flora and sagebrush are necessary.

27. The effects of grazing the crested wheatgrass seeding are clearly observable in the lack of plant succession to more native species (forbs and grasses). Also, there is almost no native seed source for sagebrush because of the plowing and seeding of crested wheatgrass. I do not know if the area seeded to crested wheatgrass had burned prior to plowing and seeding. However, the present status of the allotment that I could see had no value for sage-grouse during any season of their annual cycle. The best management of this allotment would be plowing strips across the prevailing wind and seeding with native sagebrush seed with dryland alfalfa, yellow sweet clover, as well as a mixture of native grasses and forbs. Plowing and seeding would require removal of livestock (cattle) grazing during the plant establishment period which could take multiple years, depending upon germination success. I understand the costs of plowing and seeding but this practice has been done by the BLM (and possible predecessor agencies [Grazing Service, General Land Office]) on a massive scale. I note that BLM is legally mandated to remove cattle from damaged rangelands (D. L. Donohue. 2000. Review JWM 64:4).

Hardie Summer Allotment

28. On June 20, with BLM, I visited the southeastern portion of the Hardie Summer Allotment, near the CM Otley FFR Allotment boundary, and near Big Fir Creek. I understand that, while much of the allotment burned in the Grandad fire of 2006, this portion of the allotment did not burn. The Second Declaration of Matthew Obradovich suggests the effects of the Grandad fire on other portions of the Hardie Summer Allotment may have been less harmful than on other allotments like the Mud Creek Allotment: in Paragraph 10 of his Second Declaration he states that the elevation and precipitation of the allotment means that it has greater resilience than the Mud Creek Allotment, which “allowed sagebrush to return in some areas of the burn and would allow native grasses to outcompete cheatgrass, even though it would still be present in the understory.” I am not confident this would occur if livestock (cattle) grazing continued or recommenced.

29. I also understand that some or all of the allotment was rested for at least one season (2007) following the Grandad fire, but grazing was subsequently allowed to resume from 2008 or 2009 until 2013. The allotment has been rested from grazing since 2014.

30. I observed potential brood rearing sage-grouse habitat in better than average condition in the Hardie Summer Allotment. I measured ‘randomly selected’ sagebrush bushes at 40-50 cm in height with canopy cover being variable but up to 50-60 cm. This could provide more than adequate habitat for sage-grouse during late (July-August) brood rearing as the observed forb/grass component was at least average. Mapping from Oregon State University, which predicts sage-grouse presence from telemetry studies and lek counts, topography, climate, soils, and vegetation characteristics, indicates that it is likely that sage-grouse are present on the Hardie Summer Allotment during the summer.

31. The sage-grouse habitat on the portion of the Hardie Summer Allotment I visited is not “marginal” for older (4 week old and older) chick sage-grouse assuming they can get there—the habitat condition is very good.

32. The presence of live (and also dead) juniper shrubs and trees is problematic for sage-grouse in all allotments, especially as densities and height increase. Juniper-dominated sites are not secure for survival (from predation) of sage-grouse. Some sites presently have low numbers of juniper but are problematic in the longer term. Cheatgrass presently occurs in the Hardie Summer Allotment and would be expected to increase with fire and or increased grazing.

33. The Hardie Summer Allotment had the ‘best’ (used loosely) sage-grouse brood-rearing habitat that I observed during the entire site visit. Thus, it is highly important if chicks of any age are able to find it. The distances involved from lower areas suggest that hens with young (<10-15 days of age) would have to make a rapid ‘forced’ (by habitat issues) move to get to this area. The Oregon State University mapping data that shows sage-grouse are likely to be present on the Hardie Summer Allotment during the summer may reflect adult sage-grouse presence as well as chicks.

34. If grazing is allowed to recommence on the Hardie Summer Allotment, habitat quality would decrease over time depending upon stocking rates. High stocking rates and prolonged season of use would lead to decreased survival of chick sage-grouse.

35. The devastating effects of the 2006 fires have made all un-burned areas on the allotments—and especially on the Hardie Summer Allotment—exponentially more important to sage-grouse. Retention and conservation of these areas should have high priority if persistence of sage-grouse on Steens Mountain is important.

36. The sites and conditions observed on the Steens Mountain allotments in the 2019 field visit were compared to other sites I have studied or visited during my work with Greater sage-grouse. Overall, the areas visited on Steens Mountain had exceedingly poor and the worst habitat conditions of any area where I have studied Greater sage-grouse. This includes ‘high’ (6000-7000 ft.) elevation areas in Utah (Parker Mountain) and Colorado (Cold Springs Mountain, another area [North Park] of intensive study in Colorado was at about 8,000 ft. elevation). All of these areas contain private and public lands and are grazed by livestock (mostly cattle). These 3 areas all had larger sage-grouse populations than apparent at Steens Mountain. The number of grazing permittees was lowest at Cold Springs Mountain and Parker Mountain, and highest in North Park. The most obvious difference among the 3 areas related to moisture (all had higher moisture at lower elevations than apparent at Steens Mountain). The Utah and Colorado locations had more and larger expanses of live sagebrush and all had better forb understories and less cheatgrass. All of the areas in Colorado and Utah had some juniper invasion and seeding of crested wheatgrass, but in much smaller blocks (a big block would be < 500 ac). Fire was common at Cold Springs Mountain and less so at the other two sites. All also ‘turned’ out cattle in most years later than at Steens Mountain.

37. Superficially, Steens Mountain would seem to be comparable to the best of the 4 areas contrasted. However, past management practices that incorporated vast plowing and seedings of crested wheatgrass possibly encouraged fire frequency and cheatgrass invasion. At present, while I believe Steens Mountain has had higher potential for sage-grouse, it is among the poorest of sites for sage-grouse that I have seen or found through my own research. My professional experience supports my view that past management has resulted in these obvious differences. Future management should focus on passive restoration to avoid further damage.

38. The statements in my previous Declarations still have merit as modified by actual site examinations of the allotments in question at Steens Mountain.

RESPONSES TO OBRADOVICH AND MCCORMACK DECLARATIONS

39. The Second Obradovich Declaration asks why I did not specifically identify which factor affected lek trend counts for the Mud Creek Lek, and (indirectly) other sage-grouse leks in the area. The raw data presented (by ODFW) as to the timing of the counts, the protocols followed, training of those doing the counts, weather conditions as well as replications needs verification per published technical papers (Beck and Braun 1980, Emmons and Braun 1984, Walsh et al. 2004). It is possible and highly likely that livestock (cattle) grazing is a proximate factor in the serious decline in number of males counted (2005-2006 to 2019) as grazing is the predominant land use in these allotments. However, Walsh et al. (2004) indicate extrapolation of lek count data to factors that affect those accounts can lead to erroneous ‘conclusions’ because of the complexity of issues that affect male attendance at leks. Most state agencies use lek counts to provide a general measure of population trend. Thus, in reviewing data (Obradovich Second Declaration; Figure labeled ‘Steens’: page 10), the best approach is to note the apparent slow upward trend in counts of males from 1995 to about 2004-2005 followed by an abrupt decrease in 2005-2006 which continued to 2019. This abrupt decline is problematic but inferences about causal factor(s) are difficult without scientific data which are not available from trend counts with unknown precision.

40. Obradovich (Para 7, page 5) suggests there is “a strong inference that it is not the effects of livestock grazing that is causing vacillation in lek counts over the recent past.” Obradovich Para 7. The lek count data do not support this statement for all of the reasons about the complexity of factors that are involved in affecting male sage-grouse attendance at leks

(Beck and Braun 1980, Walsh et al. 2004) as well as the knowledge that livestock (cattle) grazing is the most significant and predominant use of the allotments. This is an oversimplification of a complex relationship including but not limited to sage-grouse nest success, brood survival, and overwinter survival all of which are affected by habitats seasonally used by sage-grouse and livestock (cattle). Grazing is the predominant use of the forage in the allotments being discussed. Timing of grazing (turnout dates), class of livestock (cow/calf pairs), duration of grazing, herding practices (or not), salting practices, and provision of water as well as vegetation composition (exotic vs. native grasses and forbs) could also affect the ‘vacillation in lek counts over the recent past.’

41. The decreasing and now low lek counts from 2005-2006 through 2019 are a major cause for concern about the viability of the sage-grouse population in this area (Steens: Page 10 in Obradovich Second Declaration). Resumption of grazing could affect the sage-grouse likely to be present on Mud Creek and Hardie Summer allotments, irrespective of the extent to which previous grazing did, or did not, contribute to sage-grouse lek count fluctuation.

42. Obradovich (Para 8) suggests that the combination of sagebrush and grass/forb habitat components must be present to “adequately and sustainably meet the full complement of habitat needs for sage-grouse.” Second Obradovich Decl. ¶ 8. On a cumulative basis this would appear to have merit. However, sage-grouse in spring and summer forage mostly on forbs and can live in areas without sagebrush such as irrigated hay meadows (Klebenow 1969), and other irrigated crops such as potato fields, alfalfa raised for hay, etc. (Braun et al. 2005). Thus, use of sagebrush for food and cover is greatly reduced from mid-June into mid-September as their need for cover can be met in a variety of shrub types such as bitterbrush, willow shrubs, and even aspen. Use of sagebrush for cover as well as food increases during September and peaks from

November through June (Braun et al. 2005). Grass and forb cover is important for nesting and brood rearing when hens are nesting and rearing young (April-August). This is the most important period for rearing young which contribute to the number of males counted on leks the following spring

42. Obradovich (Para 9) suggests that Braun does not distinguish between proper and improper grazing. The question is how much forage (and what is proper) should be removed by livestock? Holechek et al. (1999) equated ‘moderate use’ to removal of an average of 43% of the primary forage species. These authors found that moderate use resulted in rangeland deterioration in semi-arid grasslands. They recommended that no more than 30-35% use of annual herbaceous production would be necessary for improvement in rangeland vegetation. This professional assessment by a well published range scientist could be reasonable for ‘proper’ grazing. Depending upon size, soils, relief and intensity of a fire, some burned areas may not be returned to grazing for greater than at least 2 years and for some far longer. Improper grazing is any grazing that removes more than about 30% of the annual production.

43. Obradovich (Second Declaration: Para 12) suggests that impacts to sage-grouse (loss of sagebrush cover and loss of connectivity) would be more likely to occur if grazing is not allowed (due to risk of fire) than if “proper livestock grazing” to reduce the risk of fine fuels was allowed. I disagree and note that ‘proper grazing’ is not well defined and also that sage-grouse evolved with fire but not with repetitive grazing where livestock (cattle) are confined to pastures which are annually grazed, at times in twice over systems (grazing during turnout in spring and again in fall as they pass through allotments upon removal). Prior to introduction of domestic livestock, western rangelands were unfenced and native grazers like bison and elk could move in synchrony with local weather conditions.

44. The Second McCormack declaration contains similar representations in paragraph 18, in which it contends that grazing can stave off wildfires. McCormack cites two Davies et al. papers (2009, 2010), neither of which is convincing that grazing was involved in changes in fire patterns. Davies et al. (2009) suggested there were periodic fires historically when there was grazing by large herbivores (presumably bison) and then examined grazing treatments with penned cattle. They suggested that low-severity disturbances may be needed to increase resilience to more severe disturbances. This was not convincing. The second Davies et al. (2010) paper was with Bates and concerned variation of forbs between sagebrush communities. This reference had no relevance to fires and livestock grazing. In addition, the Second McCormack declaration notes in Paragraph 12 that the failures of the allotments to meet land health standards were due to fire history, juniper invasion, and invasive grass contributing to future fire risk—not livestock grazing. My professional view of the failure of the allotments to meet land health standards is that livestock (cattle) are partly (at the least) responsible for spread of invasive cheatgrass and juniper invasion. Fires predate arrival of cattle in western rangelands and now occur more regularly, especially in crested wheatgrass and cheatgrass-dominated grazing systems.

45. McCormack (Second Declaration: Para 12) indicates that “BLM determined that livestock grazing was not the causal factor” for failure to meet Standard 5, intended to protect sage-grouse, and suggested this standard “for the Hammond, Mud Creek, and Hardie Summer Allotments” “was not being achieved as a result of western juniper presence, lack of sagebrush, and annual invasive grass contributing to risk of future wildfire”. My professional view differs as livestock (cattle) are involved as a causal factor in juniper presence, lack of sagebrush, and establishment of annual invasive grass.

CONCLUSION

46. The Mud Creek (especially) and Hardie Summer (the only allotment observed with presently reasonable sage-grouse habitats) allotments will continue to be harmed if livestock (cattle) grazing is allowed to resume. Given the current conditions of sage-grouse habitat on the Mud Creek and Hardie Summer allotments, resumption of grazing is likely to harm any sage-grouse using these allotments this summer. Grazing of the Mud Creek Allotment should not be allowed until at least 50% of the vegetation is useful for sage-grouse for hiding cover, lek establishment, nesting, and early brood rearing. This could take 40 to 60 years. It should not be allowed to resume this season or next season or any particular year (see above) if sage-grouse are a priority species for management. Sage-grouse should be a priority species for management as they could be listed as a threatened species and would have been by now except for political interference. Grazing of the Mud Creek Allotment could increase the likelihood of burning.

47. Steens Mountain should and could be an outstanding example of collaborative management to benefit multiple resources, including a substantial population of Greater sage-grouse. The present status of this species on Steens Mountain is begging for help which could improve the status of the species in Oregon and across the west.

I declare under penalty of perjury pursuant to the laws of the United States that the foregoing is true and correct to the best of my knowledge.

Executed this _ 25th __ day of June 2019, at Tucson, Arizona.

/s/ _____ *Clait E. Braun* _____

Clait E. Braun

I reviewed the following materials and publications in preparing this Declaration.

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